CLINICAL AND DIAGNOSTIC VALUE OF CHANGES IN IMMUNOLOGICAL STATUS IN THE DEVELOPMENT OF ARRHYTHMIAS IN PATIENTS WITH MYOCARDIAL INFARCTION

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Abstract:

In recent years, ischemic heart disease (IHD) ranks first among the causes of death in developed countries [6]. The acute period (^ -myocardial infarction in 90-95% of cases is complicated by the development of cardiac arrhythmias, which are the most common cause of death at the prehospital stage, and at the hospital stage - the second most frequent cause of death (^ -myocardial infarction.

Key words:

cardiac arrhythmias, ischemic heart disease, myocardial infarction, herpesvirus infection, somatic diseases.

Considering the high prevalence of herpesvirus infection, its active effect on suppressing immunity and aggravating the course of somatic diseases, active research is being conducted regarding its effect on the course of acute coronary syndrome. In patients with atherosclerosis, the herpes simplex virus in 90% of cases was an infectious agent, and the frequency and pathogenicity of HSV! slightly higher than HSV2. [1]. The Russian population is dominated by the herpes simplex virus. The body's defense reaction is monocytic phagocytosis and the number of T-killers, usually significantly higher in patients with atherosclerosis compared with other diseases. The tendency to accelerate the process of atherosclerosis in recent years is associated with a huge infection with HSV and the presence of the so-called conditionally pathogenic flora in the urogenital tract of the population.

In the literature, there are isolated reports on the severity of the course of C) myocardial infarction in patients with persistent herpesvirus infection [2,3]. There is sporadic information about a late increase in the activity of interferon-γ in acute (G-myocardial infarction [4]. Changes in the activity of the earliest disturbance of interferon status, -a-interferon, in myocardial infarction have not been previously performed.

Until now, in the literature, we have not found data on the correction of the interferon status status for the occurrence and course of rhythm disturbances in the acute period of C) myocardial infarction. The question of the prognosis and course of threatening cardiac arrhythmias in infarction remained insufficiently studied.

Interferons are key regulators of not only protective, but also many physiological processes in the body. In the literature, there are reports of an increase in the formation of antibodies to a-interferon in parallel with the progression of a number of diseases associated with an imbalance of the immune system. A similar pattern has been described in rheumatoid arthritis, in HIV-infected patients, in patients on hemodialysis, with a transplanted kidney, and also in hepatitis C [5].

It is known that with ischemic heart disease, myocardial infarction, the concentration of circulating immune complexes increases, the level of immunoglobulins increases the level of B cells and decreases the level of IgM, and the level of T cells decreases. However, to date, the pathogenetic significance of shifts in immunological parameters in myocardial infarction still remains insufficiently studied [6]. There are no data in the literature on the study of the content of interferons and their receptors at different stages of the clinical course of myocardial infarction. In connection with the above, the purpose of the study is formulated.

Optimization of early diagnosis and treatment of C> myocardial infarction, complicated by the development of cardiac arrhythmias, based on a comprehensive study of clinical and instrumental criteria

and determining the content of immunological factors in herpesvirus infection - specific immunoglobulins IgM and herpes viruses, a-interferon, antibodies to a- interferon.

To study the α-interferon status and the dynamics of changes in the levels of immunological indicators:

1. Specific immunoglobulins and IgO to herpes simplex virus (HSV1 + 2), and to cytomegalovirus (CMV), levels of α-interferon, levels of antibodies to α-interferon in patients with (2 -myocardial infarction, complicated by the development of cardiac arrhythmias, and without such violations.

2. To reveal the correlation between the levels of acute phase markers of myocardial damage (troponin T, creatine phosphokinase of the MB fraction, lactate dehydrogenase) and indicators of the specific herpes virus response (IgM levels to HSV1 + 2, IgM and to CMV, levels of a-interferon, antibody levels to α-interferon) in the acute period (β-myocardial infarction.

3. To determine the features of structural and functional changes in the heart in patients with (^ -myocardial infarction against the background of reactivation of herpesvirus infection (HSV1 + 2, CMV) and to establish clinical and prognostic criteria for the development of cardiac arrhythmias.

4. To establish the features of the clinical course and the dynamics of the levels of immunological markers in (Q-myocardial infarction complicated by cardiac arrhythmias, in the course of standard treatment and using kipferon from 1 to10 days of illness.

5. To develop a clinical and immunological algorithm for early diagnosis and prediction of the development of cardiac arrhythmias in C) myocardial infarction against the background of reactivation of herpesvirus infection.

To solve the set tasks, clinical observation of 130 patients was carried out, of which 110 patients (76 men, 34 women) and 20 healthy donors (11 men, 9 women). The age of the surveyed ranged from 39 to 60 years.

The study design was divided into 2 stages: Stage I: Determination of the clinical and diagnostic value of herpesvirus infection activation and determination of the level of a-interferon and antibodies to a-interferon for predicting the development of cardiac arrhythmias in C) myocardial infarction;

Stage 11: Optimization of the standard drug treatment of C) myocardial infarction with the use of interferon therapy from the first day of admission to the hospital and then within 10 days.

The research materials of the first stage were divided into

the study group - 78 patients (men - 52, women - 26) with Q-myocardial infarction, complicated by rhythm disturbance;

comparison group - 32 patients (men - 24, women - 8) with Q-myocardial infarction without rhythm disturbance.

Materials of the stage II study were divided into the study group - 40 patients (25 men, 15 women) with Q-myocardial infarction complicated by cardiac arrhythmias, who received standard drug therapy in combination with interferon therapy with kipferon (at a dose of interferon a-500,000 units / v day).

comparison group - 38 patients (26 men, 12 women) with Q-myocardial infarction complicated by heart rhythm disturbances, who received only standard drug therapy.

In the blood serum of patients, troponin T, CPK-MB, LDH were determined, the ELISA method was used to determine the levels of IgM and IgG to HPHz-2, levels of IgM and IgG to CMV, levels of concentration of a-interferon and levels of antibodies to a-interferon; the content of T- and B-lymphocytes, nonspecific immunoglobulins IgA, IgM, IgG, circulating immune complexes were determined.

Special laboratory studies were carried out by ELISA in the blood serum of patients in the study group and the comparison group. From statistical methods, two-sample correlation analysis of the modern computer program STATISTICA for WINDOWS V.6.0 was used.

As a result of the scientific work, the indicators of standard clinical, instrumental and laboratory methods of examining patients with acute myocardial infarction were evaluated along with the determination of herpesvirus infection and the assessment of a low level of a-interferon. The correlation of echocardiographic, electrocardiographic and immunological parameters was revealed, and the features of heart remodeling in patients with acute myocardial infarction against the background of reactivation of HSV1 + 2 and / or CMV infection were determined, allowing to identify statistically significant clinical

prognostic criteria for the development of cardiac arrhythmias (p <0.02). A clinical and immunological algorithm for early diagnosis and prognosis of the development of cardiac arrhythmias in (Q-myocardial infarction against the background of reactivation of herpesvirus infection) was obtained.

The use of the obtained results of a comprehensive examination of patients with myocardial CH infarction and various indicators of the immune status will help to timely predict the early development of left ventricular remodeling of the heart, to carry out complex targeted immunotherapy with a-interferon when using kipferon.

New methods of complex diagnostics will allow predicting the development of left ventricular dysfunction in the early stages of myocardial infarction.

Provisions for Defense:

1. The highest levels of troponin T were observed in patients with (myocardial infarction ^ against the background of high activity of herpesvirus and / or cytomegalovirus infection, which predetermines an unfavorable prognosis of the disease with frequent development of life-threatening arrhythmias, acute left ventricular failure, high mortality in 1st day of C> myocardial infarction, and the simultaneous activation of two infectious agents of herpesvirus infection (HSV, CMV) increases the risk of complications.

2. Detection of a diagnostically significant level of specific antibodies IgM to herpes viruses and antibodies to α-interferon in the blood of patients with C> myocardial infarction is an important criterion for diagnosing concomitant myocardial damage.

3. According to the results of the studies carried out in the identification of the earliest signs of immunological disorders, a decrease in the levels of a-interferon and a decrease in the levels of antibodies to a-interferon in the blood simultaneously with an increase in the content of specific immunoglobulins IgM and to VPHz-2> and

to CMV, it is possible to prevent the development of cardiac arrhythmias by adding Kipferon to the standard therapy of myocardial infarction within 10 days of one of the most dangerous periods of myocardial infarction.

4. Clinical diagnostic and prognostic algorithm for the management of patients with C> myocardial infarction should be based on a comprehensive assessment of clinical and instrumental data, levels of acute phase markers of myocardial damage, levels of IgM immunoglobulins and persistent herpesvirus infection (HSV 1 + 2, CMV) and assessment of a decrease in the level of a-interferon and antibodies to a-interferon.

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